

Hearing/Meeting: **Offshore Energy Hearing**
Full Committee Hearing

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Witness: **Scott A. Angelle**, Secretary,
Louisiana Department of Natural Resources,
Baton Rouge, LA

Testimony

State of Louisiana, Louisiana Department of Natural Resources, Scott A. Angelle, Secretary

Submission to the U.S. Senate Energy and Natural Resources Committee Offshore Energy
Hearing April 19, 2005

Mr. Chairman, Mr. Ranking Member, and distinguished members of Senate Energy and Natural Resources Committee, I would like to thank you for your invitation to come before your Committee today. I hope that my comments will aid you in making the important decisions that you are considering in this Congress to shape the future of our nation's energy supply. It is imperative that we, as a nation, stop reacting to energy situations imposed on us by outside forces, and instead, proactively start shaping our energy future. One of the ways to do that is to develop the full potential of the nation's offshore energy resources and to assist those states that make that production possible off their coasts. This can be accomplished by sharing with those coastal producing states some of the offshore revenues generated off their coasts. This would encourage those states to pursue more development, and it would help offset infrastructure costs those states incur that is associated with that development.

Louisiana's Role as a Producing and Consuming State

Energy is the lifeblood of an industrialized nation and a key economic driver for the country. A reliable and affordable supply of energy is necessary for economic development, prosperity, and expansion. Although technological improvements and investments in energy efficiency have reduced this country's energy consumption per unit of Gross Domestic Product over the past 20 years, increased economic prosperity is still dependent on increased energy consumption. In the U.S., the availability of energy has generally been taken for granted, but recent blackouts in California and other parts of the country, the emergence of 50 plus dollar per barrel oil and \$7 to \$8 per million BTU natural gas, and the drive to build terminals to import foreign natural gas in the form of a cryogenic liquid, have highlighted the need for addressing energy supply.

I come to you representing a state to which energy is its middle name. The words Louisiana and energy are almost synonymous. Among the 50 states, Louisiana ranks (2003 Energy Information Administration - EIA data): 1st in crude oil production 2nd in natural gas production 2nd in total energy production from all sources

The importance of energy to Louisiana is further highlighted in the following rankings in which Louisiana is (2002 EIA data latest available):

2nd in petroleum refining capacity 2nd in primary petrochemical production 3rd in industrial energy consumption 3rd in natural gas consumption 5th in petroleum consumption 7th in total energy consumption but, only 22nd in residential energy consumption

Usually, when national energy issues are discussed, Louisiana is cast in the image of a rich producing state floating in a sea of oil and gas that is being inequitably shared with the consuming states. Often misunderstood or overlooked, is the fact that about two thirds of the production from the state is in the Louisiana federal OCS territory and, hence, produces no revenue for the state, while at the same time incurring significant infrastructure support costs to the state, which I will discuss in more detail later.

Also often overlooked or not explained, is the fact that, though Louisiana is the 2nd highest energy producing state in the nation, Louisiana is also 7th highest in total energy consumption. Therefore, Louisiana is more of a consuming state than 43 other states! This story is never told, nor are Louisiana's difficulties as a key consuming state given much concern at the federal energy policy level. Thus, when Louisiana, the energy producing state speaks, it is also Louisiana, the energy consuming state speaking. Louisiana is inexorably tied into the issues of all states in the nation, whether considered producing states or consuming states. However goes the energy situation in Louisiana, so goes the energy situation in the United States of America.

Supplying the Nation: Louisiana – America's Energy Corridor

Louisiana has a long and distinguished history of oil and gas production, providing much of America's energy supply. Currently, nearly 34% of the nation's natural gas supply and almost 30% of the nation's crude oil supply is either produced in Louisiana, produced offshore of Louisiana, or moves through the state and its coastal wetlands. Together with the infrastructure in the rest of the state, this production is connected to nearly 50% of the total refining capacity in the United States.

When it comes to developing the nation's offshore energy resources, there would not be much if it were not for Louisiana's leadership and participation. The OCS territory offshore Louisiana is the most extensively developed and matured OCS territory in the world. According to preliminary 2004 data, the Louisiana OCS presently produces approximately 91% of oil and 75% of natural gas production in the OCS. Louisiana OCS territory has produced 88.7% of the 15.5 billion barrels of crude oil and condensate and 83.2% of the 154 trillion cubic feet of natural gas ever extracted from all federal OCS territories from the beginning of time through the end of 2004.

Stepping up to the plate to help the nation obtain new supplies of energy including liquefied natural gas (LNG), Louisiana is the home of the largest throughput facility (Southern Union in Lake Charles) of the four existing LNG import terminals in the U.S., and it is undergoing more than a doubling of capacity from 1 billion cubic feet per day to 2.5 billion cubic feet per day. While almost every state in the nation is trying to prevent the siting of any new LNG facilities,

Louisiana is the site of the newest permitted LNG terminal (Shell's 1 billion cubic feet per day Gulf Landing facility offshore Louisiana) and of the largest permitted LNG import terminal in the nation (Cheniere Energy's 2.6 billion cubic feet per day facility in Sabine Parish).

The vehement opposition to LNG facilities almost everywhere but in Louisiana and Texas is causing developers to get creative. Such is the case with the offshore Energy Bridge LNG gasification terminal promoted by El Paso Energy and sold to private interests. It is simply a seabuoy attached to a pipeline header to shore. The gasification facility equipment is all located onboard specially constructed LNG tankers using an open seawater system as the heat source for regasification of the LNG. Three such tankers are on order. The first is already operational and has just made its first delivery to the U.S. Although this onboard ship system avoids much of the controversy of siting a permanent LNG terminal, it also liberates the ship from having to unload its cargo at an expensive fixed terminal, enabling it to easily deliver its cargo of LNG to any place in the world that it can merely hook up into a receiving pipeline. This lack of a physical dependence on a limited number of expensive receiving terminals is good for the supplier, but not necessarily for the purchaser, who in the future could be outbid by another purchaser virtually anywhere in the world, which might just not be a seabuoy in the U.S.

Louisiana is also the home LOOP (Louisiana Offshore Oil Port), the only deepwater offshore oil import terminal in the world.

All of this represents only the direct supply line of oil and natural gas. Additionally, Louisiana's 7th highest ranking among the states in energy consumption is attributable to the fact that Louisiana is consuming most of this energy as a through-processor of energy supplies for the rest of the nation, consuming colossal amounts of energy for their benefit. An example of how Louisiana is consuming energy resources for the primary benefit of other states is petroleum refining. The energy equivalent of 10% of Louisiana's entire petroleum product consumption is required just to fuel the processes that refine crude oil into gasoline, diesel fuel, jet fuel, heating oil and other products consumed out of state. The oil refining industry employs only about 10,400 workers in the state; whereas tens of millions of jobs throughout the country are dependent on the affordability and availability of the products from the continued operation of these refineries and associated petrochemical facilities in Louisiana.

Many other examples could be cited of the numerous energy intensive natural gas and oil derived chemical products Louisiana (and also Texas, Oklahoma, and California) through-processes for the rest of the U.S. Per unit of output, these industrial processes in Louisiana are characterized as capital (equipment), energy, raw material, and pollution discharge intensive, and low in labor requirements and dollar value added, essentially the opposite of the downstream industries in other states that upgrade these chemicals into ultimate end products. Much of the energy Louisiana technically consumes is really the transformation of oil and gas into primary chemical building blocks that are shipped to other states where the final products are made, whether it be plastic toys, pharmaceuticals, automobile dash boards, bumpers and upholstery, electronic components and cabinets, synthetic fibers, or thousands of other products dependent on this flow of energy and high energy content materials out of Louisiana.

Governor Blanco has asked me to convey to you today the State's desire to not only continue this production, but to seek additional ways to increase it and to continue to insure that this supply is provided to the rest of the nation and to ask for your help in doing so. You see, we in Louisiana understand just how vital these energy resources are to the nation's economy.

OCS Infrastructure and Its Impacts and Needs

It is important to understand that there is no free lunch. Louisiana, like other coastal producing states, sustains impacts on coastal communities and bears the costs of onshore infrastructure required to support this production activity. In Louisiana, pipelines, canals, and other infrastructure features contribute to the loss of more than 24 square miles of our coastal land each year. In fact, and Mr. Chairman, you have heard me say before, that if what is happening today in coastal Louisiana were happening in our nation's capital, the Potomac River would be washing away the steps of this building today, the White House next year, and the Pentagon soon after that. In fact, during the course of this morning alone, Louisiana will lose a football field wide area from the Capitol Building to the Washington Monument.

There are many causes of this coastal erosion in Louisiana, including what may be the most significant factor: building levees and channeling the Mississippi River. Whatever the cause of its demise, the health and restoration of Louisiana's coastal wetlands are vital to protecting the offshore and onshore infrastructure that is essential for the continuation, as well as the expansion, of offshore energy production in the Gulf of Mexico.

Obsolete Practices of the Past Cause Louisiana's Problems Today

This raises one issue I would like to address. If offshore exploration and production causes or adds to coastal erosion and other environmental harm, why would any state want to support it? Simply stated, Louisiana's environmental damage issues pertaining to petroleum drilling and production are primarily related to two issues:

(1) Forces of nature that have nothing to do with the petroleum industry, but which threaten its existence, and (2) Impacts from legacies of obsolete practices of the past continuing to cause problems in Louisiana's ultra-fragile mostly marsh coastline.

Louisiana's first well was drilled in 1868. The first oil well over water in the world was in Louisiana in 1910 in Caddo Lake. The first well drilled offshore Louisiana was in 1933 near Creole, Louisiana. Louisiana was the site of the first well drilled out of sight of land in 1947.

Things have changed dramatically since 1910, 1933, 1947, or even 1960, 1970, or 1980. Offshore drilling was pioneered in Louisiana, long before modern sensitivity to the environment, advanced technology and environmental regulations. Simply put, it was like the old Wild West out there. Once, hardly anybody gave a second thought to the oil companies slicing and dicing the coastline to build canals and pipelines or to discharging produced water and drilling fluids overboard; it was all considered a sign of progress.

Everything is different now. That world and those practices have nothing more in common with modern exploration and production techniques than Conestoga wagons crossing the Oregon Trail in the 1800's have in common with jet airliners flying overhead today. Offshore development and the associated onshore infrastructure construction and operation are done in an environmentally responsible way today and under the oversight of several State and federal regulatory agencies.

Once the State realized magnitude of the coastal erosion problem, we got serious about doing something about it. In 1980, the coastal restoration permitting program was moved to the Department of Natural Resources (DNR). In 1981, \$40 million of state oil and gas revenue was set aside in a legislative trust fund for coastal restoration projects. The State has a dedicated revenue stream of up to \$25 million per year, depending on the level of revenue collections from oil and gas production within the state, to replenish the fund. In the past few years, that replenishment stream has been at the \$25 million level. In 1989, the Office of Coastal Restoration and Management was created in DNR, and the magnitude of the program was greatly expanded.

Extent of Louisiana Infrastructure Supporting OCS Production

The total value of the Louisiana OCS infrastructure and the onshore infrastructure supporting it is difficult to ascertain. The estimated depreciated investment in offshore production facilities is over \$85 billion, depreciated offshore pipeline infrastructure is over \$10 billion, and public coastal port facilities is \$2 billion, for a total of approximately \$100 billion, depreciated, and not counting highways, sewer, water, fire and police protection, schools, and other public works structures that also have ongoing operation and maintenance costs. The replacement of all of this would be several times the \$100 depreciated figure. It also does not count the onshore coastal infrastructure of pipelines, storage facilities, pumping stations, processing facilities, etc.

This infrastructure is vulnerable if not protected by the State's barrier islands and marshes. As these erode and disappear, infrastructure is exposed to the open sea and all of its fury. As the coast recedes, near shore facilities become further offshore and subject to greater forces of nature, including subsidence, currents, and mudslides. Erosion in the coastal zone is already beginning to expose pipelines that were once buried.

A Wake-up Call from Hurricane Ivan

To bring home the point of infrastructure vulnerability, we need only look back to this past Summer. Hurricane Ivan was not even a direct hit on Louisiana's offshore and coastal oil and gas infrastructure, striking two states away; yet, its effects on the nation's supply of oil and gas were significant, even many months after it hit. Most of the damage occurred along pipeline routes rather than actual structural damage to the producing platforms. As of February 14, 2005, when the Minerals Management Service (MMS) released its final impact report on Ivan, 7.42% of daily oil production and 1.19% of daily gas production in the Gulf of Mexico was still shut-in. The cumulative shut-in production through February 14 was 43.8 million barrels or 7.25% of annual Gulf of Mexico OCS production and 172.3 billion cubic feet of natural gas or 3.9% of annual Gulf of Mexico OCS gas production.

As more of the protection from Louisiana's barrier islands and coastal wetlands wash away, increasingly more of this offshore production will be damaged or destroyed by even less powerful storms than Ivan, and particularly by storms whose paths more directly pass through the producing areas off of Louisiana's coast. Direct hits to the prime production area by hurricanes and tropical storms will cause incalculable damage to this production infrastructure, as well as to the onshore support infrastructure.

How to Increase Offshore Energy Production

Share Offshore Revenue with the States that Allow Offshore Production

When states like yours, Mr. Chairman, host drilling on Federal lands onshore, they receive 50% of those revenues in direct payments, and consequently have the financial resources to support that infrastructure. In Fiscal Year 2004, Wyoming and New Mexico together received about \$928 million from those revenues, which is an appropriate revenue sharing procedure.

In contrast, for example in 2001, of the \$7.5 BILLION in revenues produced in the federal outer continental shelf area, only a fraction of one percent came back to those states. The inequity is truly profound.

We are pleased this committee is investigating ways to increase offshore energy supply. The need to sustain the existing supply that Louisiana provides must simultaneously be addressed. The most effective answer to both issues is share offshore revenues with the coastal producing states that make that production possible. It is critical that coastal producing states receive a fair share of revenues to build and maintain onshore infrastructure and, in Louisiana's case, to help stem our dramatic land loss, which is occurring at a rate believed to be the fastest on the planet.

Production off Louisiana's shores alone contributes an average of \$5 BILLION a year to the Federal treasury, its second largest source of revenue.

Does it not make sense to encourage the coastal producing states which provide that revenue for the benefit of the rest of the nation? Does it not make sense, that when so many, like the U.S. Ocean Commission, are targeting offshore OCS revenues to pay for worthwhile preservation of natural resources, that this nation first protect those who make these resources possible?

Already, in Louisiana's coastal zone, many of the pipelines and other infrastructure that our wetlands have historically protected are now exposed to open Gulf of Mexico conditions.

I shudder to think of the environmental damage and the economic impacts to this nation, had Ivan gone a relatively few miles further west with a direct hit on the infrastructure off Louisiana's shore. According to analysts, oil prices would realistically have hit \$75 dollars a barrel.

Maintaining any ongoing operation requires reinvestment to maintain, repair, and replace worn out or outdated equipment and facilities. As any farmer can tell you, you cannot just take from

the land forever without putting something back into the operation. Out of the harvest of crops, the farmer has to set aside a portion as seed to plant for the next harvest. He has to fertilize the land to replace depleted nutrients, plow and till the soil, rotate crops, control runoff and erosion, irrigate, apply pesticides and herbicides, buy and repair machinery. Likewise, to maintain, much less increase, production from off our coasts, we must reinvest in the infrastructure that makes all of the activity possible, whether it be port facilities, roads to transport equipment and supplies, erosion control, or barrier island and wetlands storm protection.

Extend Section 29 Tax Credits to Deep and Ultra-Deep Production in States Allowing Offshore Production

Section 29 of the Internal Revenue Service (IRS) Code granted a tax credit for the production of natural gas from unconventional resources (coal bed methane and tight sands gas). The effect of the application to coal bed methane gas production was astounding in those areas of the country that have significant deposits of this kind, which is not along the Gulf Coast. Natural gas reserves from coal bed methane rose from 6.3% of U. S. reserves at the end of 1993 to 9.9% at the end of 2003. Annual natural gas production from coal bed methane rose from 4.2% of U. S. dry gas production in 1993 to 8.2% by the end of 2003.

Deep natural gas reserves (15,000-24,999 feet sub-surface) and ultra-deep gas reserves (greater than 25,000 feet sub-surface) are the next most immediate resources for meeting the supply and deliverability needs of the U. S. market. These resources should be granted the same tax credit as was granted to coal bed methane producers. The resulting stimulus to production should be at least equal to the coal bed methane results, and would very likely far exceed it in time as capital is brought to bear on this drilling domain. The MMS has recently instituted significant deep shelf royalty incentives for the shallow federal waters of the Gulf of Mexico shelf. This does no good for the adjacent state waters and onshore areas. The Section 29 credits need to be instituted for state waters and onshore areas, at least in those states allowing federal offshore production.

Encourage New Energy Sources and Technology

Recent studies show that the Gulf of Mexico has a significant wind energy potential. Although wind power does not have the energy density of petroleum, it is an inexhaustible, renewable source of clean energy. Again, much to my consternation, it appears that there are many parts of the country that use a lot of energy and want it low prices, but do not want the production of any kind, anywhere near them, including wind energy. Again, Louisiana is stepping up to help encourage this clean energy source. The State of Louisiana is currently working with private sector investors who are interested in developing wind farms in state and federal waters off Louisiana's coasts. My office is submitting wind power legislation before the Louisiana Legislature in the session starting later this month, to facilitate offshore wind power development in Louisiana's State offshore waters.

Natural gas hydrates probably offer the greatest untapped energy resource the nation has. The Oil and Gas Journal recently reported that the U.S. Geological Survey estimates that methane hydrate deposits are greater than all other forms of fossil fuels combined. Large deposits of gas hydrates are believed to lie below the offshore waters of the U.S. Unfortunately, technology to

tap these resources needs to be developed. Once the technology is available, the first areas to be developed will be the areas adjacent to the existing offshore producing areas where the infrastructure is in place to get it to shore and into the nation's pipeline distribution system. The federal government needs to fund meaningful research into developing the technology to produce gas hydrates, assessing the resource base, and producing it.

In Conclusion

It is vital to the nation's security and prosperity that new energy sources be developed. The federal government has proven that it has the ability to steer investment, as in the case of deep water drilling in the Gulf and coal seam gas. In addition to its significance in producing 30% of oil and 23% of natural gas produced domestically, which is mostly off Louisiana, the OCS is probably the single most promising area for the U.S. to obtain significant new energy supplies. These supplies, whether conventional oil and gas, imported oil, imported LNG, wind and ocean energy, or gas hydrates, need the support of coastal states to cooperate and to supply and maintain critical production and support infrastructure.

LNG facilities are being built where the existing U.S. pipeline infrastructure exists (essentially Louisiana and Texas) in order to get the gas from the coast into the delivery system to supply the nation. The same will be true when the technology is developed to commercialize methane hydrate production off the coasts. This Louisiana and Texas infrastructure will also be used when deep and ultra-deep shelf production comes on stream. This is another reason why offshore revenue should be shared with the coastal producing states and why the extension of Section 29 tax credits should be extended to deep gas exploration at least in the states that are allowing onshore and offshore drilling and allowing the siting of LNG facilities to make energy available to the rest of the country.

With effective policies and incentives, the federal government can steer investment into the offshore areas, and by receiving an equitable share of revenue generated offshore, the coastal producing states can be in a position to ensure that this production will be made available to the rest of the nation. As the granddaddy of all producing states, literally and figuratively, Louisiana desperately needs immediate revenue sharing financial assistance from a source not subject to annual appropriations, to continue to maintain existing, and to develop future energy supplies for the nation. Governor Blanco is submitting legislation for a State constitutional amendment to dedicate to coastal projects, any future new OCS revenue the State may receive, to show Louisiana's commitment to use money the federal government shares with the State to put into coastal restoration to rebuild and protect the OCS production infrastructure.

It would be a travesty for the Congress to enact national energy legislation without substantial OCS revenue sharing in the form of direct payments to the coastal producing states from the revenue derived from offshore production, similar to the automatic payments for drilling on federal lands onshore, and before any other dispersal of those monies.

Thank you for this opportunity to appear before you.